



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-1117; Directorate Identifier 2012-NE-25-AD; Amendment 39-17275; AD 2012-24-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Rolls-Royce plc Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Rolls-Royce plc (RR) RB211-Trent 900 series turbofan engines. This AD requires inspection of the low pressure turbine (LPT) bearing housing end cover assembly in certain engines and, if necessary, its replacement. This AD was prompted by a Trent 900 engine experiencing a high intermediate pressure vibration fault, along with other fluctuating engine parameters, while in flight. We are issuing this AD to prevent fracture of the oil transfer tube, which could result in uncontained failure of the engine and damage to the airplane.

**DATES:** This AD becomes effective [Insert date 15 days after date of publication in the FEDERAL REGISTER].

[Insert date 15 days after date of publication in the FEDERAL REGISTER].

We must receive comments on this AD by [Insert date 45 days after date of publication in the FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of [Insert date 15 days after date of publication in the FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-245418 or e-mail from [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp), or download the publication from <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory

evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: (800) 647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7143; fax: 781-238-7199; e-mail: alan.strom@faa.gov.

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive AD No. 2012-0145, dated August 6, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

During a revenue service flight, a Trent 900 engine experienced a high Intermediate Pressure (IP/N2) vibration fault along with several other fluctuating engine parameters, including Low Pressure (LP/N1) faults. The flight crew decided to throttle back the engine to idle and performed an air turn back. The other engines continued to operate normally and an uneventful landing was made.

The results of an initial investigation revealed that the LP system was seized. Removal of the Low Pressure Turbine (LPT) bearing housing end cover revealed that the oil transfer tube assembly had fractured because the spherical seat between the oil transfer tube and the end cover was missing (not installed).

This non-conformity caused the fracture of the oil transfer tube, leading to reduced oil flow and subsequent damage to the LP and IP bearings. Rolls-Royce has identified that other Trent 900 engines could potentially be affected.

The in-service event engine was assembled at the factory by RR. After the in-service event, RR inspected all LPT bearing housing end cover assemblies they had assembled and found one other assembly with a missing spherical seat. RR estimates that up to 200 LPT bearing housing end cover assemblies assembled using this procedure may have been built without the spherical seat. We are issuing this AD to prevent fracture of the oil transfer tube, which could result in uncontained failure of the engine and damage to the airplane. You may obtain further information by examining the MCAI in the AD docket.

#### **Relevant Service Information**

Rolls-Royce has issued Alert Non-Modification Service Bulletin Alert (NMSB) RB.211-72-AH051, dated August 3, 2012, or Revision 1, dated September 11, 2012, and NMSB RB.211-72-H056, dated August 3, 2012, or Revision 1, dated September 11, 2012. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **FAA's Determination and Requirements of this AD**

This product has been approved by the United Kingdom and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that notice and comment prior to adoption of this rule is unnecessary

because no engines are used on U.S. registered airplanes. Therefore, we find that good cause exists for making this amendment effective in less than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1117; Directorate Identifier 2012-NE-25-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

2012-24-05 **Rolls-Royce plc:** Amendment 39-17275; Docket No. FAA-2012-1117;

Directorate Identifier 2012-NE-25-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [Insert date 15 days after date of publication in the FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Rolls-Royce plc (RR) RB211-Trent 970-84 and 972-84 series turbofan engines, all serial numbers.

#### **(d) Reason**

This AD was prompted by a Trent 900 engine experiencing a high intermediate pressure vibration fault, along with other fluctuating engine parameters, while in flight.

We are issuing this AD to prevent fracture of the oil transfer tube, which could result in uncontained failure of the engine and damage to the airplane.

**(e) Actions and Compliance**

Before further flight, unless already done, do the following:

(1) Use paragraph 1.A. of RR Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AH051, dated August 3, 2012, or Revision 1, dated September 11, 2012, and RR NMSB RB.211-72-H056, dated August 3, 2012, or Revision 1, dated September 11, 2012, to determine which engine serial numbers to inspect.

(2) Inspect the LPT bearing housing end cover assembly for the presence of a spherical seat, P/N CU38971. For guidance on performing the inspection, see paragraphs 3.A.(5) through 3.A.(8) of the SBs listed in paragraph (e)(1) of this AD.

(3) If, during the inspection required by paragraph (e)(2) of this AD, you find that spherical seat, P/N CU38971, is missing, replace the LPT bearing housing end cover assembly, P/N FW22780, with a part eligible for installation.

**(f) Installation Prohibition**

After the effective date of this AD:

(1) Do not approve for return to service any airplane with an engine, affected by this AD, installed, unless the engine has passed the inspection required by paragraph (e)(2) of this AD.

(2) Do not install an LPT bearing housing end cover assembly, P/N FW22780, onto any engine required to be inspected by this AD, unless the LPT bearing housing end cover assembly was inspected as required by this AD.



**(g) Credit for Previous Actions**

If you accomplished the actions required by paragraph (e) of this AD before the effective date of this AD using RR Technical Variance (TV) 125436, issue 2, dated July 27, 2012, you met the requirements of paragraph (e) of this AD.

**(h) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(i) Related Information**

(1) For more information about this AD, contact Alan Strom, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7143; fax: 781-238-7199; e-mail: [alan.strom@faa.gov](mailto:alan.strom@faa.gov).

(2) Refer to European Aviation Safety Agency Airworthiness Directive 2012-0145, dated August 6, 2012, for related information.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the following service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise:

(i) Rolls-Royce (RR) Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AH051, dated August 3, 2012.

(ii) RR Alert NMSB RB.211-72-AH051, Revision 1, dated September 11, 2012.

(iii) RR NMSB RB.211-72-H056, dated August 3, 2012.

(iv) RR NMSB RB.211-72-H056, Revision 1, dated September 11, 2012.

(3) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-245418, e-mail: [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp), or download the publication from <https://www.aeromanager.com>.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on November 26, 2012.

Colleen M. D'Alessandro,  
Assistant Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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